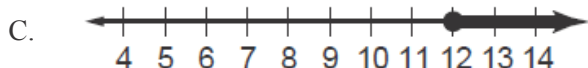
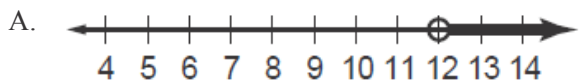


Name: _____

1. Which graph below shows the inequality $x > 12$?



2. What is the solution of $x + 6 < 5$?

- A. $x < 11$
B. $x > 11$
C. $x < -1$
D. $x > -1$


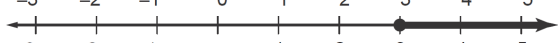


What is the solution of $\frac{2}{3}a + 6 > 0$?

3. A. $a > -9$
B. $a < -9$
C. $a > 9$
D. $a < 9$

What is the solution of $\frac{y}{-2} \leq 3$?

4. A. $y \leq -6$
B. $y \geq -6$
C. $y \leq 6$
D. $y \geq 6$

What is the graph of the solution set of $b - 4 \geq -1$?

5. A. 
B. 
C. 
D. 

6. Solve: $\frac{-x}{4} > 8$

- A. $x > -2$
B. $x < -2$
C. $x > -32$
D. $x < -32$

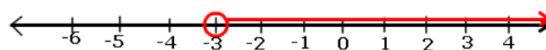
7. If you multiply both sides of an inequality by a negative number, when should you reverse the inequality symbol?

- A. sometimes
B. always
C. never
D. depends on if the number is a fraction or not

8. Which of the following is in the solution set (would appear in the shaded region of the graph) for the inequality $x + 7 > 9$?

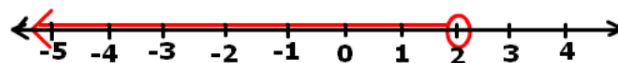
- A. 6
B. -6
C. -4
D. 2

9. The solution of which inequality is graphed below?



- A. $x + 1 < 4$
B. $-3x < 9$
C. $x < -3$
D. $-4x > 12$

10. The solution of which inequality is graphed below?

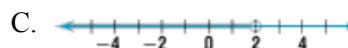


- A. $-7x > -14$
B. $x < -2$
C. $5x > 10$
D. $-3x < -6$

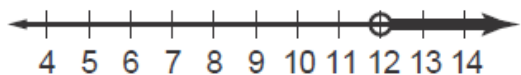
11. What is the solution for: $-3x - 1 < -19$?

- A. $x > -6$
B. $x < 6$
C. $x < -6$
D. $x > 6$

12. Which graph below shows the solution to the inequality $x + 4 < 2$?



13. The solution to which inequality is shown below?



- A. $2x - 4 > 12$
- B. $\frac{2}{3}x - 1 \geq 4$
- C. $-2x - 4 < -28$
- D. $5x - 1 > 11$

14. Solve $\frac{1}{3}x - 2 > -1$

- A. $x > 3$
- B. $x < 9$
- C. $x < 3$
- D. $x > -9$

15. What is the inequality for the graph below?



- A. $x < 7$
- B. $x \leq 7$
- C. $x > 7$
- D. $x \geq 7$

16. The solution to which inequality is shown below?



- A. $-2x - 10 > -30$
- B. $-2x - 10 < -30$
- C. $-2x - 10 \leq -30$
- D. $-2x - 10 \geq -30$

17. Solve $4x - 3 < 13$

- A. $x > 4$
- B. $x < \frac{5}{2}$
- C. $x < 4$
- D. $x > \frac{5}{2}$

18. Write an inequality for the sentence:

More than 75 people attended the powder puff game.

- A. $x < 75$
- B. $x \leq 75$
- C. $x > 75$
- D. $x \geq 75$

19. What is the inequality for the graph below?



- A. $x \geq -7$
- B. $x > -7$
- C. $x < -7$
- D. $x \leq -7$

20. There are 256 vehicles in a car dealership's lot. At least 113 of them are hybrid vehicles. Which inequality describes how many vehicles, at most, are not hybrid?

- A. $x \leq 143$
- B. $x < 143$
- C. $x > 143$
- D. $x \geq 143$

21. Ben wants to have his birthday at the bowling alley with a few of his friends, but he can spend no more than \$80. The bowling alley charges a flat fee of \$45 for a private party and \$5.50 per person for shoe rentals and unlimited bowling.
- Write an inequality that represents the total cost of Ben's birthday for p people given his budget.
 - How many people can Ben pay for (including himself) while staying within the limitations of his budget?
 - Graph the solution of the inequality from part (b).
22. Match each problem to the inequality that models it. One choice will be used twice.
- | | | |
|-------|--|----------------------|
| _____ | The sum of three times a number and -4 is greater than 17. | a. $3x + -4 \geq 17$ |
| _____ | The sum of three times a number and -4 is less than 17. | b. $3x + -4 < 17$ |
| _____ | The sum of three times a number and -4 is at most 17. | c. $3x + -4 > 17$ |
| _____ | The sum of three times a number and -4 is no more than 17. | d. $3x + -4 \leq 17$ |
| _____ | The sum of three times a number and -4 is at least 17. | |

23. At most, Kyle can spend \$50 on sandwiches and chips for a picnic. He already bought chips for \$6 and will buy sandwiches that cost \$4.50 each. Write and solve an inequality to show how many sandwiches he can buy. Show your work and interpret your solution.
24. If x represents a positive integer, solve the following inequalities.
 - a. $x - 15 < 20$
 - b. $x + 3 \leq 15$
 - c. $-x > 2$
 - d. $10 - x > 2$
 - e. $-3x \geq -6$
 - f. $\frac{x}{2} < 12$
25. The length of a rectangular fenced enclosure is 12 feet more than the width.
 - a. If Farmer Dan has 100 feet of fencing, write an inequality to find the dimensions of the rectangle with the largest perimeter that can be created using 100 feet of fencing.
 - b. Solve the inequality from part a to find the dimensions of the rectangle with the largest perimeter.
 - c. If Farmer Dan uses these dimensions to create a rectangular pen, what is the area enclosed by the fence?